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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,769	02/05/2004	Andrzej Kaszuba	8306/DSM/BCVD/JW	9333

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PATTERSON & SHERIDAN, LLP
APPLIED MATERIALS INC
595 SHREWSBURY AVE
SUITE 100
SHREWSBURY, NJ 07702

EXAMINER

DHINGRA, RAKESH KUMAR

ART UNIT PAPER NUMBER

1763

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/775,769	KASZUBA ET AL.	
	Examiner	Art Unit	
	Rakesh K. Dhingra	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 8-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>06/04</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION***Election/Restrictions***

Applicant's election with traverse of species 1 (Figures 1-3) in the reply filed on 8/2/06 is acknowledged. The traversal is on the ground(s) that examiner has merely identified different species in the application but has not demonstrated serious burden if the restriction is not imposed. This is not found persuasive because in this case different species (1-8) pertain to different features of "guard ring" which is the essence of invention in the present application and each species would necessarily require separate search. The search would encompass more than 1 class/subclass like 118, 156/345, 204, 216 etc. As regards species of Figure 6A, claim 8 recites a first flange and a second flange whereas claim 1 (Figures 1-3, species 1) does not recite any flanges associated with species 1. Thus as explained above species as per Figure 6A would also require separate search. Therefore in case restriction is not imposed, the search would create serious burden. Accordingly claims 8-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species. The requirement is still deemed proper and is therefore made FINAL.

Specification

The disclosure is objected to because of the following informalities:

Paragraph 0040, line 4 – "and 604" may please be replaced by "and 362" since guard ring reference number is 362 in preceding Figure 3.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1) Claim 2 recites the limitation "first step" in line 2. There is insufficient antecedent basis for this limitation in the claim since claim 1 recites only "step" and not "first step". Thus for the purpose of examination on merits this limitation has been interpreted as "step".

2) Claim 5 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention as explained hereunder.

Claim 5 recites limitation "wherein the outer circumference flares outward towards the substrate support" that is not supported by specification. Paragraph 0036, line 6 of specification discloses "the outer circumference flares outward to facilitate engagement of the guard ring with the lip". Therefore for the purpose of examination on merits this limitation has been interpreted as "wherein the outer circumference flares outward to facilitate engagement of the guard ring with the lip".

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 21 is rejected under 35 U.S.C. 102(b) as being anticipated by Al-Shaikh et al (US Patent No. 6,221,221).

Regarding Claims 1, 21: Al-Shaikh et al teach a semiconductor processing chamber (Figure2) comprising:

a chamber body (walls 203, 211) having an aperture formed in a bottom of the chamber

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body (by bottom wall 211);

a substrate support (pedestal 206, susceptor 207) disposed in the chamber body;

a moveable pipe (shaft) 240 coupled to the substrate support and extending through the aperture;

a step formed in an inner surface of the aperture;

a collar (substantially annular guard ring) positioned within the step and extending radially inward toward the shaft; and

a bellows 238 that provides seal between inside atmosphere and vacuum (column 3, line 40 to column 4, line 45).

Regarding Claim 2: Al-Shaikh et al teach a lip formed in the step adapted to retain collar (guard ring) 248 within the step (Figure 2).

Regarding Claim 3: Al-Shaikh et al teach the collar (guard ring) 248 comprises a base portion having an outer circumference and an inner perimeter, wherein the outer circumference contacts the step and the inner perimeter is adapted for substantially sealing a gap between the shaft and the aperture (Figure 2).

Regarding Claim 4: Al-Shaikh et al teach the outer circumference of collar (annular ring) 248 is formed as a substantially right angle to a bottom surface of the step (Figure 2).

Regarding Claim 5: Al-Shaikh et al teach the outer circumference of collar (annular ring) 248 flares outward to facilitate engagement of the guard ring with the lip (Figure 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Al-Shaikh et al (US Patent No. 6,221,221) in view of Grantz et al (US Patent No. 5,938,343).

Regarding Claim 5: Al-Shaikh et al teach all limitations of the claim but do not explicitly teach inner perimeter formed as wedge.

Grantz et al teach (Figures 4A, 4B) use of wedge shaped seal 80 as shaft seals in vacuum systems (column 6, lines 30-65).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use guard ring with inner perimeter formed as wedge as taught by Grantz et al in the apparatus of Al-Shaikh et al to achieve improved sealing between non-matching surfaces.

Regarding Claim 6: Al-Shaikh et al teach that upper edge of collar (guard ring) 248 projects above the bottom of chamber body 211 (Figure 2).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rakesh K. Dhingra whose telephone number is (571)-272-5959. The examiner can normally be reached on 8:30 -6:00 (Monday - Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571)-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Rakesh Dhingra


Parviz Hassanzadeh
Supervisory Patent Examiner
Art Unit 1763